

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (PREVIOUSLY PRESENTED) A memory access control apparatus comprising:
a memory access control unit for storing image data in a memory by a two-dimensional array according to values of a bank, a row, and a column inside the memory where the image data is to be stored calculated on the basis of coordinate values of the image data constituting one image frame and predetermined data, wherein the predetermined data is a word per bank, a row per unit line, an offset, and a base row value.
2. (ORIGINAL) The apparatus of claim 1 further comprising a storing unit for storing the predetermined data.
3. (CANCELED)
4. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the word per bank is the number of words stored in each line of the Nth bank of the Nth row inside the memory.
5. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the row per unit line is the number of rows inside the memory where one image line inside one image frame is stored.

6. (ORIGINAL) The apparatus of claim 5, wherein the unit line is the number of lines stored in the N^{th} bank of the N^{th} row inside the memory.

7. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the offset is obtained by multiplying a vertical line/a unit line to a row per unit line.

8. (ORIGINAL) The apparatus of claim 7, wherein the vertical line is the number of lines inside the memory where one image frame is stored.

9. (ORIGINAL) The apparatus of claim 7, wherein the unit line is the number of lines stored in the N^{th} bank of the N^{th} row inside the memory.

10. (PREVIOUSLY PRESENTED) The apparatus of claim 1, wherein the base row value is a start row address of one image frame.

11. (ORIGINAL) The apparatus of claim 1, wherein the memory access control unit stores image data of a horizontal direction inside said one image frame in the N^{th} row inside the memory in a horizontal direction, and stores image data of a vertical direction inside said one image frame in the N^{th} row inside the memory in a vertical direction.

12. (ORIGINAL) The apparatus of claim 11, wherein the memory access control unit stores image data of 256 words in the N^{th} bank of the N^{th} row inside the memory.

13. (ORIGINAL) The apparatus of claim 12, wherein the memory access control unit stores the image data in the N^{th} bank of the N^{th} row inside the memory so that a word per bank can be 32 and a unit line can be 8.

14. (CURRENTLY AMENDED) A method for storing image data for an image in a memory wherein the memory includes a plurality of banks, comprising:

storing the image data in a plurality of memory banks, wherein

pixel data for each horizontal line of the image are stored in two or more memory banks, and

pixel data for each vertical line of the image are stored such that at least one memory bank includes two or more pixel data of the vertical line; and

mapping each pixel data of the image data to a particular memory bank and row and column within the particular memory bank,

wherein the step of mapping each pixel includes

determining rows per unit line, wherein the rows per unit line is defined as a number of rows of each memory bank needed to store one horizontal line of image data; and

mapping each pixel based on the rows per unit line, and

wherein the rows per unit line is based on a number of pixels in the one horizontal line of image data, a number of pixel data storable per column of the memory bank, a number of columns per memory bank, and a number of memory banks per row.

15. (CANCELED)

16. (CANCELED)

17. (CANCELED)

18. (CURRENTLY AMENDED) The method of claim ~~17~~ 14, wherein the rows per unit line is calculated as $A/(B*C*D)$, wherein A is the number of pixels in the one horizontal line of image data, B is the number of pixel data storable per column of the memory bank, C is the number of columns per memory bank, and D is the ~~a~~ the number of memory banks per row.

19. (CURRENTLY AMENDED) The method of claim ~~16~~ 14, wherein the step of mapping each pixel ~~comprises~~ further comprises:

determining an offset, wherein the offset is defined as a number of rows of each memory bank occupied by the image data; and

mapping each pixel also based on the ~~vertical~~ offset.

20. (PREVIOUSLY PRESENTED) The method of claim 19, wherein the offset is based on

a number of pixels in one vertical line of image data,

a number of pixel data storable per line of memory bank,

the rows per unit line.

21. (PREVIOUSLY PRESENTED) The method of claim 20, wherein the offset is calculated as $(E/F)*G$, wherein E is the number of pixels in one vertical line of image data, F is the number of pixel data storable per line of memory bank, and G is the rows per unit line.

22. (PREVIOUSLY PRESENTED) The method of claim 20, wherein the pixel data comprises one of

luminescence and chrominance values, or

red, green, and blue color values.

23. (NEW) A method for storing image data for an image in a memory wherein the memory includes a plurality of banks, comprising:

storing the image data in a plurality of memory banks, wherein

pixel data for each horizontal line of the image are stored in two or more memory banks, and

pixel data for each vertical line of the image are stored such that at least one memory bank includes two or more pixel data of the vertical line;

mapping each pixel data of the image data to a particular memory bank and row and column within the particular memory bank,

wherein the step of mapping each pixel includes

determining rows per unit line, wherein the rows per unit line is defined as a number of rows of each memory bank needed to store one horizontal line of image data;
mapping each pixel based on the rows per unit line;
determining an offset, wherein the offset is defined as a number of rows of each memory bank occupied by the image data and is calculated as $(E/F)*G$, wherein E is the number of pixels in one vertical line of image data, F is the number of pixel data storable per line of memory bank, and G is the rows per unit line; and
mapping each pixel also based on the offset.

24. (NEW) The method of claim 23, wherein the pixel data comprises one of luminescence and chrominance values, or red, green, and blue color values.